

**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**  
 (Use several sheets if necessary)

 Atty. Docket No.  
 1856-27301  
 (9646.0-01)

 Serial No.  
 10/686,977

 Applicant  
 Rafael L. Espinoza

 Filing Date  
 October 16, 2003

 Group  
 1621

**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
JP	AA	3894963	07/15/1975	<i>Gerdes et al.</i>	252	464	
JP	AB	6271432	08/07/2001	<i>Singleton et al.</i>	585	700	12/20/2000
JP	AC	6503867	01/07/2003	<i>Stamires et al.</i>	502	335	

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	Translation	
							YES	NO

**OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)**

JP	AD	PCT International Search Report for International Application No. PCT/US03/32801 dated March 4, 2004 (2 p.)						
JP	AE	Database CAPLUS on STN Chemical Abstract (Columbus Ohio, USA) CA:2000: 795147, Loosdrecht et al., <i>Support Modification for Cobalt Based Slurry Phase Fischer-Tropsch Catalyst</i> , American Chemical Society, (2000), 220 <sup>a</sup> , Fuel-048, see abstract.						

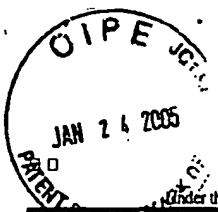
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
Sheet 1 of 1				Application Number	10/686.977
				Filing Date	October 16, 2003
				First Named Inventor	Rafael Espinoza
				Group Art Unit	1621
				Examiner Name	Jafar Parsa
				Attorney Docket Number	1856-27301 (9646.0-01)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
JP	AA	US-4602000	07/22/1986	Dupin et al.	
JP	AB	US-5874381	02/23/1999	Bonne et al.	
JP	AC	US-6806226	10/19/2004	Van Berge et al.	
JP	AD	US-6835690	12/28/2004	Van Berge et al.	
JP	AE	US-2003/0162849	08/28/2003	Van Berge et al.	
JP	AF	US-2004/0186188	09/23/2004	Van Berge et al.	

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		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
JP	AG	WO 03/012008 A2	02/13/2003	Sasol Technology		
JP	AH	WO 01/87480 A1	11/22/2001	Perial Chemical Industries PLC		
JP	AI	WO 01/76735 A1	10/18/2001	Phillips Petroleum Company		
JP	AJ	WO 00/45948	08/10/2000	Sasol Technology		
JP	AK	ZA 2001/6213	07/27/2001	Sasol Technology		

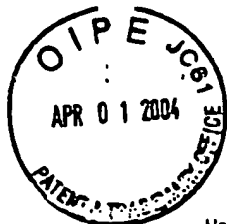
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>

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				First Named Inventor	Rafael L. Espinoza
				Group Art Unit	1621
				Examiner Name	Not Yet Assigned
Sheet	1	of	4	Attorney Docket Number	1856-27301

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Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
JP		US-2,892,858	06-30-1959	Ziegler	
JP		US-3,852,190	12-03-1974	Buss et al.	
JP		US-4,012,313	03-15-1977	Buss et al.	
JP		US-4,063,851	12-20-1977	Weldon	
JP		US-4,224,192	09-23-1980	Foster et al.	
JP		US-4,387,085	06-07-1983	Fanelli et al.	
JP		US-4,617,183	10-14-1986	Lewis et al.	
JP		US-4,708,945	11-24-1987	Murrell et al.	
JP		US-4,744,974	05-17-1988	Lewis et al.	
JP		US-4,831,007	05-16-1989	Murrell et al.	
JP		US-4,891,127	01-02-1990	Murrell et al.	
JP		US-5,055,019	10-08-1991	Meyer et al.	
JP		US-5,102,851	04-07-1992	Eri et al.	
JP		US-5,116,879	05-26-1992	Eri et al.	
JP		US-5,134,107	07-28-1992	Narula	
JP		US-5,232,580	08-03-1993	Le et al.	
JP		US-5,837,634	11-17-1998	McLaughlin et al.	
JP		US-6,063,358	05-16-2000	Lindquist et al.	
JP		US-6,224,846	05-01-2001	Hurlburt et al.	

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		Country Code* Number* Kind Code* (if known)				
JP		GB 640,965	08-02-1950	Anglo-Iranian Oil Co.		
JP		GB 2 352 194 A	01-24-2001	Sasol Technology		
JP		WO 02/07883 A2	01-31-2002	Sasol Technology		
JP		WO 99/42214	08-26-1999	Sasol Technology		

Examiner Signature	<i>J. Pardo</i>	Date Considered	4/10/05
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Examiner Signature	<i>J. Porsen</i>	Date Considered	4/10/05
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		IHNS SCHULZ; Short History and Present Trends of Fischer-Tropsch Synthesis; Abstract, Universitat Karlsruhe, Germany; 10 pages. <i>Date unknown</i>	
JP		M. ABSI-HALABI, et al.; "Studies on Pore Size Control of Alumina: Preparation of Alumina Catalyst Extrudates with Large Unimodal Pore Structure by Low Temperature Hydrothermal Treatment"; Preparation of Catalysts V, 1991 Elsevier Science Publishers B.V., Amsterdam, pp. 155 - 163.	
		ALCOA WORLD CHEMICAL; "High purity, high density, boehmite aluminas"; ALCOA Product Data USA/6070-RO4/0801; 2 pages. <i>Date unknown</i>	
		ALCOA WORLD CHEMICAL; "High purity, high density, gamma phase alumina"; ALCOA Product Data Sheet USA/6080-RO2/0601; 2 pages. <i>Date unknown</i>	
		CONDEA; "High purity activated aluminas PURALOX <sup>®</sup> , CATALOX <sup>®</sup> "; Product Information Sheet 10/99; 6 pages <i>Date unknown</i>	
JP		RONG-SHENG ZHOU, et al.; "Structures and Transformation Mechanisms of the $\eta$ , $\gamma$ and $\theta$ Transition Aluminas"; International Union of Crystallography 1991; Institute for Ceramic Superconductivity, New York State College of Ceramics, Alfred University, Alfred, NY 14802, USA; pp. 617-630	
JP		RICHARD L. SMITH, et al.; "The Influence of Diaspore Seeding and Chloride Concentration on the Transformation of 'Diasporic' Precursors to Corundum"; Journal of the American Ceramic Society, October 16, 2000; 31 pages.	
		S. MATSUDA, et al.; "A New Support Material for Catalytic Combustion Above 1000 °C"; 8th International Congress on Catalysis; Vol. IV: <i>Impact of surface science on catalysis</i> , structure-selectivity/activity correlations, new routes for catalyst synthesis, pages IV-879-IV-889. <i>Date unknown</i>	
JP		H.C. STUMPF, et al.; "Thermal Transformations of Aluminas and Alumina Hydrates"; Industrial and Engineering Chemistry, Vol. 42, No. 7, July 1950; pages 1398-1403.	
JP		SHU-HUI CAI, et al.; "Atomic Scale Mechanism of the Transformation of $\gamma$ -Alumina to $\theta$ -Alumina"; The American Physical Society 2002; Physical Review Letters, Vol. 89, No. 23; December 2, 2002; 4 pages.	
JP		ZHONG-WEN LIU, et al.; "Partial Oxidation of Methane Over Nickel Catalysts Supported on Various Aluminas"; Korean J. Chem. Eng., Vol. 19, No. 5, pages 735-741 (2002).	

Examiner Signature	<i>J. P. Jones</i>	Dated Considered	4/10/03
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JP		HYUN-SEOG ROH, et al.; "Partial Oxidation of Methane Over Ni/θ-A1 <sub>2</sub> O <sub>3</sub> Catalysts"; Chemistry Letters 2001; March 19, 2001; pages 666-667.	
JP		HYUN-SEOG ROH, et al.; "Partial Oxidation of Methane Over Ni/Ce-ZrO <sub>2</sub> /θ-A1 <sub>2</sub> O <sub>3</sub> "; Korean J. CHem. Eng., Vol. 19, No. 5; pages 742-748 (2002).	
JP		HIROMICHI ARAI, et al.; "Thermal stabilization of catalysts supports and their application to high-temperature catalytic combustion"; Applied Catalysis A: General 138 (1996); pages 161-176; Elsevier Science Publishers B.V., Amsterdam.	
JP		BERNARD BÉGUIN et al.; "Stabilization of alumina by addition of lanthanum"; Applied Catalysis A: General 138 (1996); pages 161-176; Elsevier Science Publishers B.V., Amsterdam.	
JP		FRANÇOIS OUDET, et al.; "Thermal Stabilization of Transition Alumina by Structural Coherence with LnAlO <sub>3</sub> (Ln = La, Pr, Nd)"; Journal of Catalysts Vol. 114; pages 112-120 (1988).	
JP		H. SCHAPER, et al.; "The Influence of Lanthanum Oxide on the Thermal Stability of Gamma Alumina Catalyst Supports"; Applied Catalysis, Vol. 7 (1983), pages 211-220; Elsevier Science Publishers B.V., Amsterdam.	
JP		JALAJAKUMARI NAIR, et al.; "Pore Structure Evolution of Lanthana-Alumina Systems Prepared Through Coprecipitation"; J. Am Ceram. Soc., Vol. 83, No. 8; pages 1942-46 (2000).	
		S. N. RASHKEEV, et al.; "Transition metal atoms on different alumina phases: The role of subsurface sites on catalytic activity"; Physical Review B, Vol. 67, No. 115414; 4 pages. <i>Date unknown</i>	
JP		HENNIE SCHAPER, et al.; "Thermal Stabilization of High Surface Area Lumina"; Solid State Ionics, Vol. 16 (1985), pages 261-266.	
JP		XIAOYIN CHEN, et al.; "High temperature stabilization of alumina modified b lanthanum species"; Applied Catalysis A: General, Vol. 205 (2001); pages 159-172.	
JP		S. SUBRAMANIAN, et al.; "Characterization of lanthana/alumina composite oxides"; Journal of Molecular Catalysis, Vol. 69 (1991); pages 235-245.	
JP		P. SOUZA SANTOS, et al.; "Standard Transition Aluminas. Electron Microscopy Studies"; Materials Research, Vol. 3, No. 4; pages 104-114, 2000.	
JP		E. IGLESIA, et al.; "Computer-Aided Design of Catalysts," ed. E.R. Becker et al., p. 215-225, New York, Marcel Decker, Inc., 1993.	
JP		H. PHAM, et al.; "The synthesis of attrition resistant slurry phase iron Fischer-Tropsch catalysts," Catalysis Today, Vol. 58 (2000), pp. 233-240.	

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